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PCT-Application PCT/IB02/00556
Applicant / Owner: Nokia Corporation
Our Ref.: 50876 WO (KG/BK)

In response to the Official communication following rule 66, dated November 26, 2003.

I. New Documents

We submit herewith a set of new claims 1 to 15.

The new claims 1 to 15 are disclosed in pending claims 1 to 15.

The independent claims 1 and 13 have been drafted in the two-part form. The claims have been provided with reference signs to increase their clarity. The preambles of claims 1 and 13 have been taken from document D1.

We kindly ask that the further adaptation of the specification to the newly filed claims may be deferred until allowable claims have been achieved.

II. The invention as claimed.

The invention provides a method for adapting the configuration of at least one application running on a mobile terminal device to an accessible data connection, through the steps of obtaining properties of at least one data connection accessible from said mobile terminal device, and adapting the configuration of said application on said terminal device in accordance with said properties.

The present invention also provides a self-contained mobile terminal device capable of configuring applications without any data exchange with a server device.

That is the present invention is based on a self-contained method for configuring applications on a mobile terminal device without any data exchange with a server device.

III. State of the Art

The examiner denies an inventive step of the subject matter of the independent claims 1, 10, 12, and 13 with respect to two references.

D1: WO 02/05581 A1 (Skog, Robert) published January 27, 2002

D 1 discloses a communication system that comprises a terminal that is adapted to access information in an application server via an access network using an access bearer. This system conveys the capability of the access bearer to the application at the server in order to tailor the information content depending on the capability of the bearer that is used for the specific access. Thus, D1 is based on the idea to provide a method for network system to ensure that a data transmission time is not unreasonably extended by a data bottleneck jammed by a data overflow, as can be experienced by everyone browsing the Internet using a conventional 56 kbit/s modem.

D2: WO 01/35585 A1 (Eneborg, Mats) published May 17, 2001

D2 discloses a method and an apparatus for providing a selective access to a network between an end device and a network such as the Internet through one or more access network terminating devices, including determining an access capability for each access network terminating device and comparing the access capability with a preferred access capability associated with a user preference. D2 further discloses an automated selection of an access network terminating device according to said user preference. That is, the

document D2 discloses an automated network access point selection based on pre-stored data.

IV. Object of the invention

It is an object of the present invention to provide a mobile terminal device and a method that are capable of adapting the performance of an application to the properties of a selected transfer channel, to optimize the overall performance if the selectable data connections depend on different transfer modes, with different transfer properties. (See page 2, lines 26-28).

The present invention desires to reduce the number of required user input in a mobile terminal device when selecting an appropriate data channel and also desires to minimize the cost of a certain service for the user of the terminal device.

The present invention also desires to provide a simplified access to applications. Though not explicitly noted, the increased overall performance also provides an energy saving feature.

V. Solution

A method and a mobile terminal device according to claims 1 and 13 solve the object of the invention. The method of the invention provides a possibility to adapt applications according to the properties of an available or a selected data transfer for e.g. saving resources of the mobile terminal device.

IV. Novelty

The examiner did not object to the novelty of the pending claims, therefore the present claims are regarded to be novel over the cited documents as well.

VI. Inventive step

The examiner objects to an inventive step of claims 1 to 15, as being suggested with regard to document D1 or by the document D1 in combination with document D2.

The Examiner states that in his opinion the feature, "that a mobile device that determines the properties of available data connections and a successive adaptation of application characteristics of a server application" does suggest to apply these two steps also to the terminal device side of the present invention.

The document D1 discloses a method that is based on a distributed system in which the server can not determine the overall data transfer rate from the server to the terminal. To avoid unsatisfactory prolonged download times the properties of the expected weakest link in the transmission chain i.e. the radio down link properties are determined by the terminal and are transferred to the server via the data connection.

In D1 only a "downlink" data transfer of a communication system is disclosed, wherein the application server does not request the transmitted data download properties.

D1 does not disclose that the "uplink" data transfer is performed according to the determined properties of the data transfer connection. D1 does not disclose this feature because there is much less data transferred from a mobile terminal to a server than in the other direction. Additionally, if a user wants to send a predetermined amount of data the upload time has up to now to be accepted by a user, as the data storage capability of a mobile device is actually restricted, and thus a maximum upload time is acceptable. Furthermore, a user will not accept to send only a reduced amount of data to achieve a reduced upload time.

The disclosure of D1 does actually not suggest to adapt a mobile terminal based application to adapt to the transmission condition of an accessible data transfer connection.

The only way the examiner may regard the subject of the present invention as being suggested by the disclosure of D1 is by applying an undue ex-post consideration in view of the disclosure of D1. The examiner fails to indicate what feature in D1 can suggest an artisan to change the configuration of an application running on a mobile terminal device.

The present invention is related to a method to adapt the configuration of an application running on a mobile terminal device. With such an adaptation the download time of a data transmission can not be influenced. Thus, the present invention is aimed at a different target than D1.

Therefore, in view of the above arguments the disclosure of D1 can not suggest the subject of the present invention as defined by the independent claims 1 and 13.

The cited document D2 describes an automated data transfer channel selection, but does not adapt the configurations of applications running on the mobile terminal device, because the selected channel has to provide a predefined quality of service. If a channel does not fit the desired quality standard for an application, the channel is not selected, and therefore the characteristics of the application do not need to be adapted. D2 can be regarded as the inverse case to the subject of the present invention, as in D2 an application in a terminal device selects one of a plurality of available data transfer paths. Thus D2 alone can not suggest the subject matter of the present invention.

Thus, in view of the above arguments the present invention is to be regarded as inventive over the disclosure of D2 alone.

A combination of the documents D1 and D2 would also not lead to the object of the present invention. A combination of D1 with D2 would only result in an automated selection of a data transfer path according to D2, followed by a transfer of the properties of said selected data transfer path to a remote application server to adapt an application running on said application server. That is, the disclosures of the documents D1 and D2 are readily combinable by an artisan by linking the methods at the steps of determining the properties of available / selected data transfer connections, but this combination teaches away from the subject matter of the present invention.

In view of the above arguments it is assumed that the Examiner's objections have been overcome, and it is therefore respectfully requested that the claims 1 to 15 as presently on file are acknowledged as inventive. Therefore, issuance of a favorable IPER is kindly requested.

Dr. Alexander Straus
(Patent Attorney)

Enclosure
New claims 1 - 15

Claims

1. Method for operating a mobile terminal device having an application (50-56) and wherein said mobile terminal device can access at least one data connection (10, 12, 14, 16, 18), comprising the steps of:
- obtaining properties (100) of at least one data connection (10, 12, 14, 16, 18) accessible from said mobile terminal device,
  characterized by
- adapting (102) a configuration of said application (50-56) on said terminal device in accordance with said properties.

2. Method according to claim 1, wherein the only available property comprises the identification of said data connection (10, 12, 14, 16, 18).

3. Method according to claim 1 or 2, wherein said properties are obtained (100) when a specific data connection (10, 12, 14, 16, 18) is selected.

4. Method according to anyone of the claims 1 to 3, wherein said at least one accessible data connection (10, 12, 14, 16, 18) is a potentially accessible data connection (10, 12, 14, 16, 18).

5. Method according to anyone of the claims 1 to 4, further comprising the step of determining actually accessible data connections (10, 12, 14, 16, 18), and wherein said properties are obtained (100) during said determination.

6. Method according to anyone of the preceding claims, further comprising the step of determining active applications (50-56), and adapting (102) the configurations of said determined active applications (50-56).

7. Method according to anyone of the preceding claims, further comprising the step of starting (80) an application (50-56) on a mobile terminal device prior to obtaining (100) said properties.

8. Method according to anyone of the preceding claims, further comprising the step of detecting (90) a data transfer to be performed by an application (50-56), prior to obtaining (100) said properties.

9. Method according to anyone of the preceding claims, further comprising the step of selecting an appropriate data connection (10, 12, 14, 16, 18).

10. Software tool for adapting (102) the configuration of an application (50-56) of a mobile terminal to an accessible data connection (10, 12, 14, 16, 18), comprising program code means for carrying out the steps of anyone of claims 1 to 9 when said program is run on a mobile terminal device.

11. Computer program for adapting (102) the configuration of an application (50-56) of a mobile terminal to an accessible data connection (10, 12, 14, 16, 18), comprising program code means for carrying out the steps of anyone of claims 1 to 9 when said program is run on a mobile terminal device.

12. Computer program product comprising program code means stored on a computer readable medium for carrying out the method of anyone of claims 1 to 9 when said program product is run on a mobile terminal device.

13. Mobile terminal device comprising:
    - data exchanging means, capable of accessing at least one data connection (10, 12, 14, 16, 18);
    - data processing means, capable of running applications (50-56); and
    - means for obtaining properties of at least one data connection (10, 12, 14, 16, 18) accessible by said data exchanging means;

    characterized by
    - means for adapting (2, 40 44, 46, 48) the configuration of at least one application (50-56) according to said obtained properties.

14. Mobile terminal device according to claim 13, further comprising means for selecting one of said at least one accessible data connections (10, 12, 14, 16, 18).

15. Mobile terminal device according to claim 13 or 14, further comprising means for storing said configurations of said applications (50-56) for said at least one accessible data connection (10, 12, 14, 16, 18).